

May 14, 2003

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Mr. Howard Orlean  
United States Environmental Protection Agency Region 10  
1200 Sixth Avenue, WCM-126  
Seattle, Washington 98101-3188

OFFICE OF WASTE  
& CHEM. MGMT.

**RE: COMMENTS ON THE FEBRUARY 25, 2003 TRANSFORMER PCB  
INVESTIGATION WORK PLAN BOEING PLANT 2  
SEATTLE/TUKWILA, WASHINGTON  
FARALLON PN: 831-003**

Dear Mr. Orlean:

Farallon Consulting, L.L.C. (Farallon) has prepared this letter on behalf of Earle M. Jorgenson Company (EMJ) to provide comments on the *Transformer PCB Investigation Work Plan (Work Plan) Boeing Plant 2, Seattle/Tukwila, Washington*, prepared by Weston Solutions, Inc. (Weston) for The Boeing Company (Boeing), dated February 25, 2003. The Work Plan was prepared in response to a request from the United States Environmental Protection Agency Region 10 (EPA) to prepare and submit a Draft Work Plan to investigate the polychlorinated biphenyl (PCB) release associated with the Seattle City Light (formerly Puget Power) transformer pad installation located in the southern part of the Boeing Plant 2 facility (Plant 2), which is located to the north of Jorgensen Forge. The proposed investigation will be conducted by Boeing pursuant to the 1994 Administrative Order On Consent (Order) under the Resource Conservation and Recovery Act (RCRA) for Plant 2.

### GENERAL COMMENTS

Farallon appreciates the opportunity to provide constructive comments and, where appropriate, recommendations regarding the proposed scope of work for the investigation of the PCB release in the area of the transformer pad, specifically related to proposed work on the adjacent Forge facility formerly owned by EMJ (1965-1992) and now owned by the Jorgenson Forge Corporation (Forge). As you know, EMJ is currently negotiating with you on the scope of its own investigation of the Forge facility. Farallon would like to establish an effective working relationship with both EPA and Boeing in order to coordinate the respective investigations, integrate the data collected, and, to the extent possible, provide consistent interpretations of the data. In that spirit, Farallon submits these comments for your consideration.

A summary table of the analytical results of soil sampling for total PCBs and the respective Aroclor(s) detected in the upland areas was included in the Work Plan. However, there is no summary table of analytical results for PCBs and/or Aroclor(s) detected in the surface sediment samples collected during the November 2001 investigation performed by Boeing or for the other

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historical sediment sample data referenced in the Work Plan. These data should be included in a summary table in the Work Plan. In addition, the PCB sampling results including Aroclor(s) for groundwater samples collected from selected monitoring wells adjacent to and downgradient of the transformer pad should also be included.

The same symbol is used to depict existing sampling locations for borings and permanent monitoring wells locations on the majority of the figures with the exception of Figure 3. It would be very helpful for the reader to use different symbols in order to distinguish between one time reconnaissance sampling locations and permanent monitoring well locations. It would also be helpful to provide a summary table of proposed soil, groundwater and sediment sample locations indicating sampling intervals, media to be sampled, total number of samples and required laboratory analyses, and estimated total depths.

### **SPECIFIC COMMENTS**

The following presents comments to specific references in the Work Plan. The references in the Work Plan are defined by section.

#### **Section 4.2.1: Page 4-1, 1<sup>st</sup> Bullet**

The summary of PCB analytical results for soil samples should include the November 2001 investigation results.

#### **Section 4.2.1: Page 4-2, 1<sup>st</sup> Bullet**

A table summarizing the analytical results for PCBs including Aroclor(s) detected in groundwater samples collected from the six monitoring wells located adjacent to the transformer pad should be included. Farallon also recommends providing a well construction summary table for all seven monitoring wells referenced in the text including: total depth, screened interval, surveyed elevation of the top of casing and the most recent depth to water measurements and calculated groundwater elevations.

#### **Section 4.2.1: Page 4-2, 3<sup>rd</sup> Bullet**

The description of the 2-66 containment structure relative to the transformer pad should be referenced as roughly 60 feet north of the transformer pad.

#### **Section 4.2.2.1: Page 4-4, Paragraph 3**

Farallon recommends providing specific water level data for the monitoring wells located in close proximity to the transformer pad either in the text or in a table in order to understand the relative groundwater level fluctuations in the area of concern. It would also be helpful to include a groundwater contour map from a recent groundwater monitoring event that shows the direction of groundwater flow.



**Section 4.2.2.2: Page 4-4 and 4-5**

The available data indicate that the release of PCBs to the ground surface at the transformer pad has been limited both vertically and horizontally to the shallow subsurface soils in the immediate area of the transformer pad, and to a lesser extent to groundwater in the upper portion of the shallow aquifer at monitoring well location PL2-006A. Since the migration potential of PCBs is limited due to its chemical characteristics, the proposed investigation should focus on assessing preferential migration pathways in areas immediately adjacent to the transformer pad such as the stormwater drainage system directly beneath and downgradient of the transformer pad, which reportedly discharges to the Duwamish Waterway.

**Section 4.2.2.3: Page 4-5, Paragraph 3**

There have been numerous surface sediment samples collected in areas adjacent to the Forge facility as well as in areas upstream and downstream of the Forge facility, which also contain concentrations of PCBs. These data should be included on the historical figures in order to provide a more representative distribution of PCBs in the sediments in this portion of the Duwamish Waterway and to help focus the selection of additional sediment sampling locations. Several sediment samples referenced in the Southwest Yard area are not shown on the figures and should be added. As previously stated, a summary table of PCB results for sediment samples collected in the Duwamish Waterway including Aroclor(s) should also be included in order to compare with the results of soil and groundwater samples collected in adjacent upland areas.

It should be noted that references to sediment samples SD-DUW90 and SD-DUW89 only provide qualitative data regarding the presence of PCBs in the surface sediments since these samples are composite samples collected from several different sample locations that are over 100 feet apart. Farallon recommends that any future surface sediment sampling and analysis be restricted to discrete sample locations in order to provide quantitative data that will be useful for completing the characterization of sediments and for developing remedial strategies, as appropriate.

**Section 4.3.1.1: Page 4-7, Paragraph 1**

The available soil and groundwater data in the area of the transformer pad indicate that the vertical and lateral extent of concentrations of PCBs in soil above the Model Toxics Control Act (MTCA) Method A cleanup level are well bounded within a very localized area immediately surrounding the transformer pad. Based on these data, the proposed number of sampling locations and frequency of analysis seems excessive, specifically with regard to the proposed sampling locations at the Forge facility. For example, previous soil samples collected from SB-0702 and SB-0706 at the Forge facility were reported non-detect for PCBs at all depths sampled. Additional soil samples collected from borings SB-07201 and SB-07210 detected only low concentrations of PCBs, well below the MTCA Method A cleanup level. Several of the proposed soil sample locations are within a few feet of existing sample locations that were reported non-detect for PCBs.



Farallon concurs that the investigation should be phased in order to refine sampling locations as additional data are compiled. Since one of the stated goals of the proposed investigation is to evaluate the relative importance of current migration pathways, including migration along/within the stormwater conveyance system, Farallon recommends that prior to selecting soil sampling locations, a comprehensive survey of the stormwater conveyance system in the area of the transformer pad be performed. This survey should be added as a specific task in Phase 1 and should include both a historical review and physical survey of the existing system including, but not limited to, the two stormwater lines that run along the Plant 2/Forge facility property line and reportedly discharge to the Duwamish Waterway, and the catch basin and associated stormwater drainage system located on the west side of the transformer pad. The results of this survey should then be used to select soil and groundwater reconnaissance sample locations.

Farallon recommends reducing the total number of soil sampling locations on the Forge facility to focus on the area immediately adjacent to the transformer pad and along the existing stormwater lines, which parallel the Plant 2/Forge facility property line, and any additional potential preferential migration pathways identified from the stormwater conveyance system survey. This would include soil sample locations SB-07224, SB-07220, SB-07228, SB-07234, and SB-07246 and the proposed locations at Plant 2.

#### **Section 4.3.1.2: Page 4-8, Paragraph 1**

Farallon agrees with the collection of groundwater samples from all the monitoring wells listed, with the exception of monitoring well PL2-JF02A, which is located over 200 feet cross gradient from the transformer pad. The location of monitoring well PL2-007A is not shown on Figures 4, 5 or 6. As stated previously, construction logs for monitoring wells to be sampled and proposed sampling depths should be summarized in a table.

#### **Section 4.3.1.3: Page 4-8**

It is not clear what the rationale is for collecting the proposed bank samples and what media would be sampled. In addition, the bank in this area is near a vertical wall, which would impede sample collection. Farallon does not think sampling at the proposed bank sample locations is warranted without evidence of migration of PCBs from the upland area.

#### **Section 4.3.1.4: Page 4-8**

Farallon concurs that sediment sampling should be performed in the adjacent Duwamish Waterway. Farallon recommends focusing the sediment sampling to the area adjacent to the discharge points of the stormwater lines, which parallel the Plant 2/Forge property boundary. Farallon also recommends collecting samples of the discharge, if any, from the reported stormwater lines to assess if there is currently any migration of PCBs from the upland source area at the transformer pad to the Duwamish Waterway. The reference for the proposed sediment sampling locations should be included on Figure 6.





EMJ and Forge have never utilized PCBs in their metal forging operations, because PCBs are detrimental to the forging process. Based on a preliminary review of site-specific information, chemicals used in the forging process are predominantly petroleum based. A Toxics Substance Control Act (TSCA) inspection performed by EPA in late 2001 at the Forge facility determined that the Site was not a source of PCBs other than in transformers that have been retrofitted. The proposed sampling program included in the Work Plan appears excessive and should focus more directly on the release of PCBs from the transformers located on the Boeing Plant 2 property.

On April 24, 2003, Farallon attended a meeting at the Site with Ryan Barth and David Templeton with Anchor Environmental, L.L.C., Will Ernst and Mike Gleason with Boeing, Steve Fuller with Weston, and Ron Altier with Jorgensen Forge. The purpose of the meeting was to: 1) discuss the boring locations identified in the Work Plan; and 2) the access agreement between Boeing and Jorgensen Forge.

Based on discussions with Boeing and Weston, the borings locations identified in the Work Plan are flexible and can be relocated, if needed. In addition, Boeing indicated that some of the boring locations, particularly those inside the buildings with limited access, may be completed using hand auger methods.

Please contact the undersigned if you have any questions or require additional information regarding these comments.

Sincerely,

**Farallon Consulting, L.L.C.**

J. Riley Conkin  
Principal Geologist

Amy Essig Desai  
Project Manager

cc: William Johnson, EMJ  
William Joyce, Ogden Murphy Wallace  
David Templeton, Anchor Environmental. L.L.C.  
William Ernst, The Boeing Company

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